

# Corporate image, customer satisfaction and loyalty among customers in air conditioner industry: Basis for customer relationship management model

Wu, Qingqing ✉

Graduate School, Lyceum of the Philippines University - Batangas, Philippines ([2538019804@qq.com](mailto:2538019804@qq.com))



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## Abstract

Based on the field of air conditioner industry, this study mainly determined the various dimensions of corporate image, customer satisfaction and customer loyalty of Chinese air conditioner enterprises, and defined the customer relationship management system driven by corporate image for Chinese air conditioning companies. Through empirical research, descriptive statistics and inferential analysis were carried out on the questionnaire data of 567 respondents from the survey by SPSS version 28, and the status quo of the evaluation of the dimensions of corporate image, customer satisfaction and customer loyalty of Chinese air conditioner companies was revealed, the relationships among corporate image, customer satisfaction and customer loyalty were obtained. Specifically, this study showed that respondents agreed on the evaluation indicators related to the corporate image, customer satisfaction and customer loyalty of the air conditioning enterprises involved, and the important role of natural image, service image, product image, corporate behavior and other factors in shaping corporate image. The study also revealed the importance of customer satisfaction and customer loyalty to enterprises to obtain market competitiveness. Meanwhile, through the correlations among corporate image, customer satisfaction and customer loyalty tested in this study, it was concluded that corporate image has a positive and significant relationship with customer satisfaction and customer loyalty, meaning the better corporate image is, the higher customer satisfaction and customer loyalty will be. The empirical research results also showed that there is a strong positive and significant correlation between customer satisfaction and customer loyalty, which means the higher the customer satisfaction, the higher the customer loyalty. This paper also created a customer relationship management model of Chinese air conditioner enterprises, indicating that a good customer relationship management model should be composed of corporate image, customer satisfaction and customer loyalty. Finally, based on this study, the researcher provided relevant suggestions which have certain empirical reference significance for air conditional industry.

**Keywords:** air conditioner company, corporate image, customer satisfaction, customer loyalty, customer relationship model

## **Corporate image, customer satisfaction and loyalty among customers in air conditioner industry: Basis for customer relationship management model**

### **1. Introduction**

Air conditioner has always been one of the indispensable household appliances in the progress of human life. At the same time, the continuous development of air conditioner industry is also the civilized embodiment of human's continuous pursuit of energy saving and emission reduction, intelligent and comfortable environment. In 2022, the global epidemic situation is still severe, all sorts of complicated factors led to the abnormal high temperature weather which made people miserable life, despite hot weather lit the busy season of air conditioner market, the heat hadn't encouraged the whole air conditioner demand of the market due to ill effects from factors such as conservative consumption, the decreasing benefits of real estate industry. Taking China as an example, according to GfK's total data, the retail volume and sales of Chinese home air conditioner market in the "cold year" (May 15 to September 15) in 2022 were 43.57 million units and 150.5 billion yuan, down 15.0 percent and 9.2 percent year-on-year, respectively. Although the home air conditioner market is facing the problem of stall growth in the "cold year", the adjustment of demand structure still brings many new market opportunities to enterprises: the market of rural third - and fourth-tier cities still has the potential to be tapped; home central air conditioner market is entering in a golden development period; the market demand for high-end air conditioners is increasingly prominent; the overall solution market of home appliance sets has great potential in the future (Liu, 2022) .

When difficulties and opportunities coexist in the air conditioner market around the world, under the background of economic globalization, increasingly fierce market competition and the spread of the pandemic, companies recognize the benefits of good service for retaining and winning customers, in which every business is required to keep customers happy (Nikou et al., 2016). Therefore, a healthy air conditioner company needs to find new customers, ensure customer satisfaction as well as loyalty, and recommend new market opportunities through their customers, only in this way can it continue to compete with other competitors.

Competition is an important feature of the market. How to make customers satisfied with their products or services and how to keep customers loyal to enterprises is an important way for enterprises to achieve sustainable market competitiveness, especially in the retail-based home appliances and air conditioner industry. However, in order to remain competitive in the market, companies must no longer take only one factor or several factors into consideration for this. Enterprises in the 21st century have become more and more concerned about how to manage corporate image to increase the attention of more stakeholders, especially consumer groups.

Good corporate image contributes to customer satisfaction and the formation of customer purchase preferences (Nikou et al.,2016). Customer with high satisfaction will make repeated purchases and recommend the same products and services to the others. Therefore, as one of the most valuable intangible assets of enterprises, corporate image has been attracting the attention of scholars and business circles (Yazid et al.,2020), including the importance of corporate image and influence dimensions (Quartier et al., 2020; Adiguzel and Yazici, 2019; Villena, 2019; Zhang et al., 2019). At the same time, most literatures have explored the relationships among corporate image and customer satisfaction or customer loyalty (Ali et.al, 2020; Chien and Chi, 2019; Darmawan et al., 2018). In spite of the importance of corporate image mentioned above, there still exists some limitations on the literature on corporate image research in developing countries (Yazid et al.,2020).

Therefore, in this paper, considering the importance of corporate image, customer satisfaction and customer loyalty to the enterprise market competitiveness and the relationships among the three variables, this paper tries to take consumers who buy air conditioners as the research respondents, in the context of Chinese air conditioner industry facing market difficulties and opportunities ,to evaluate corporate image of air conditioner enterprises,

and simultaneously study the relationship between corporate image and customer satisfaction as well as the relationship between corporate image and customer loyalty from the two dimensions so as to make up for the theoretical and empirical vacancy in the field of Chinese corporate image in the context of air conditioner market. At the same time, this paper provides theoretical and empirical basis for measures suggested to problems solving as well as corporate image management, and customer relationship management in air conditioner industry in China, when facing challenges and opportunities.

**Objectives of the Study** - The study aimed to describe the corporate image, customer satisfaction and loyalty among customers of Air Conditioner Industry in China. Specifically, it Described the corporate image as to natural image, product image, service image, behavior aspect and mental attribute aspect; Determined the customer satisfaction as to experience satisfaction, fulfilment of expectations and customer perception; Described customer loyalty as to attitude loyalty, behavior loyalty and emotional loyalty; Tested the relationships among the three variables; Developed a Customer Relationship Management Model.

## 2. Methods

**Research Design** - This paper developed a questionnaire based on a large number of literature studies, and used statistical analysis methods to guide the empirical analysis of the whole paper, and then analyzed the relationship between the three research variables. According to Kaliyadan and Kulkarni (2019), statistical methods are mainly divided into descriptive statistical analysis and inferred statistical analysis. Descriptive statistical analysis mainly analyzes the attribute percentage and probability of research samples rather than making any inference with probability. It is a simple quantitative analysis based on demographic or geographical characteristics initially. It is a general statistical analysis of the overall situation of the respondents. Extrapolative statistical analysis is a statistical inference process that extrapolates general rules or characteristics based on sample information collected, such as correlation and regression analysis used by researcher in this paper (Salvatore, 2021). The research design of this paper is described as follows:

First of all, the literature research method is used to analyze the definition and importance of each research variable as well as the main constituent dimensions and influence indicators analyzed by scholars. According to the literature research gap, the main dimensions and indicators of the structural questionnaire are finally selected. Secondly, questionnaire survey research method is used to collect the latest first-hand data, and the data sources obtained are targeted and real-time. Considering the epidemic situation and real-time data acquisition, questionnaire collection mainly comes from online collection. Thirdly, descriptive statistical method is used. This paper carries out accurate analysis of demographic characteristics and other multidimensional perspectives on the research theme and makes descriptive statistical analysis of three selected variables. The obtained status analysis data is of statistical guiding significance and relatively objective, which is conducive to the research theme analysis of this paper. Furthermore, based on the inferred statistical analysis method, this paper can study the complex relationship between target variables according to the results of correlation analysis and regression analysis to build a customer relationship management model, which is helpful to interpret the main idea of this study and has practical guiding significance.

**Participants of the Study** - The respondents in this paper are mainly customers of the top five brand companies in Chinese air conditioning industry. The researcher contacted the air conditioning shops and randomly distributed electronic questionnaires online to transactional customers to ensure the accuracy of subjects involved. The researcher also randomly sent questionnaires through internet channels to obtain feedback information from air conditioning consumers in more regions and companies, thus rapidly increasing the sample size required for the study. The number of copies of respondents involved in each brand company must be higher than 60 to meet the standard of statistical validity. Through sample collection, totally 569 questionnaires were received from air conditioning consumers, and 567 were valid.

**Data Gathering Instrument** - The questionnaire involved in this study is mainly formulated from the

selected dimensions of three variables, so it is mainly divided into three modules. Each dimension of each variable is formulated as a measure of a question that can be answered. The measurement method adopts the 4-level Likert scale: thus 1 stands for "Totally disagree"; 2 stands for "Disagree"; 3 stands for "Agree"; 4 stands for "Totally agree". The questionnaire consists of two parts. The first part covers the respondents' profile. The second part is designed based on the dimensions and indicators of the corporate image, customer satisfaction and customer loyalty respectively. In the process of questionnaire making, the basis for each module is as follows: The first module "Corporate image" module involves five aspects as natural image, product image, service image, behavior aspect and mental attribute aspect (Lin,2015).

**Data Gathering Procedure** - The researcher selected this research topic based on social hot spots and academic research, and sorted out the logical structure of the questionnaire according to the content of the analyzed paper and distributed it to obtain the main empirical data of this study. The respondents of the questionnaire are distributed anonymously via Wechat and QQ, so the privacy of the content will be protected. The content of the questionnaire and the overall thesis proposal should be approved by the Graduate School of Lyceum of the Philippines University - Batangas before sending the questionnaire through the channels mentioned above, to collect a small sample with more than 30 respondents and less than 100 respondents. The reliability results showed that the Cronbach's alpha for influence of Natural Image Aspect (0.923), Product Image Aspect (0.896), Service Image Aspect (0.913), Behavior Aspect (0.847), Mental attributes Aspect (0.887); Experience Satisfaction (0.886), Fulfillment of expectations (0.800), Customer Perception (0.903); Attitude Loyalty (0.923), Behavior Loyalty (0.901) and Emotional loyalty (0.901) suggesting that the items have relatively high internal consistency.

**Ethical Considerations** - The content and logical rationality of this study and the questionnaire must be reviewed and permitted by researchers and instructors and the Graduate School of Lyceum of the Philippines University - Batangas before starting. When sending questionnaires, researcher in this study should respect the personal wishes of respondents to be surveyed and fill out questionnaires and should not force or promote the completion of questionnaires in other ways. The personal information and contents of the surveyed respondents are collected anonymously, and the privacy of their personal information and related contents is protected to prevent illegal infringement and threat.

**Data Analysis** - In this study, the corresponding indicators of different dimensions of the three core variables were designed and coded to achieve the digital structuring of statistical data, and the module evaluation was carried out by means of preprocessing and statistical conversion, so as to facilitate the preliminary statistical analysis. The overall data analysis of the study was quantitatively analyzed by statistical analysis method, which mainly included descriptive statistical analysis and statistical inference analysis. Firstly, a preliminary descriptive statistical analysis was made on the generality features of the three variables through frequency distribution and weighted mean in order to give an overall description. Secondly, according to the rho index in correlation analysis, this paper determined the relationship between corporate image and customer satisfaction, corporate image and customer loyalty, customer satisfaction and customer loyalty. In order to further analyze the relationship between the three variables of corporate image, customer satisfaction and customer loyalty, the regression coefficient was obtained according to the regression analysis, and then the specific regression model of customer loyalty, customer satisfaction and corporate image was constructed, and the customer relationship management model was output to achieve the final analysis goal of the study. The statistical analysis methods aforementioned were calculated and processed by SPSS version 28.

### 3. Results and Discussion

Table presents shows the frequency distribution table of samples based on personal profile, and analyzes the proportion of demographic characteristics involved in consumers, such as age, gender, civil status, employment status and category, degree level and monthly family income respectively. It can be clearly seen from Table 2 that different attribute of individuals presents different frequency distributions. Based on the result of

Shapiro-Wilk Test showed that the data set was normally distributed (González-Estrada et al., 2022).

**Table 1**

*Percentage Distribution of the Respondents Demographic Profile*

Age	Frequency	Percentage %
22 and below	32	5.64%
22 – 30	109	19.22%
31 – 40	247	43.56%
41 – 50	144	25.40%
51 – 60	32	5.64%
60 and above	3	0.53%
<b>Sex</b>		
Male	232	40.92%
Female	335	59.08%
<b>Civil Status</b>		
Single	101	17.81%
Married	455	80.25%
Widowed/Separated	11	1.94%
<b>Employment Status</b>		
Full time	384	67.72%
Part-time	35	6.17%
Self-employed	114	20.11%
Laid off	34	6.00%
<b>Professional Status</b>		
Student	49	8.64%
Worker	117	20.63%
Farmer	30	5.29%
Private Servant	2	0.35%
Teacher	52	9.17%
Civil Servant	12	2.12%
Others	305	53.79%
<b>Degree Level</b>		
Doctorate Degree	10	1.76%
Master's Degree	74	13.05%
College Graduate	199	35.10%
Vocational	133	23.46%
High school level or below	151	26.63%
<b>Family Monthly Income</b>		
Below-RMB5000	195	34.39%
RMB5000-7000	140	24.69%
RMB7000-10000	119	20.99%
RMB10000-15000	65	11.46%
RMB15000-Above	48	8.47%

In terms of age distribution, the whole sample follows the normal distribution, and most air conditioning consumers are between 31 and 40 years old, with 247 people accounting for 43.56%, nearly accounting half of the total sample. However, among consumers under 22 years old and aging population account for a relatively small proportion: 32 people under 22 years old with a percentage of 5.64%, and only 35 people between 51 and 60 years old or above account for only 6.17%. The research shows that the age distribution of air conditioning consumers is more inclined to the employed or the older members of the family, because these groups are the majority of the people who buy household appliances and are surveyed (Baldini et al., 2018). However, gender is another invisible factor of household appliances purchase intention and energy (Winther et al., 2020). When it comes to sex distribution, the gender distribution has unevenly distributed as female consumers accounted for 59.08 percent, which was 18.17 percent higher than the 40.92% male consumers. The survey sample shows the same results according to Li et al. (2019) that women are the main shoppers who are more likely to purchase household appliances in China regardless of other factors.

The distribution proportion of civil status in the sample shows that, with 455 respondents taking a large ratio of the total amount, some are single because they are students or young respondents and the ratio is low at

17.81%, while divorced individuals are with the least percentage of 1.94% which is negligible. This proportion is in line with Chinese current national conditions (Yu & Xie, 2021).

When regarding employment status, only 6% of respondents in the sample were unemployed, and the respondents also included unemployed students. Most respondents were in full-time status, accounting for 67.72%. 20.11% of the respondents are self-employed, that is, owning their own company or business, and 6.17% are part-time respondents. Although the survey was conducted in the aftermath of the pandemic covid-19 in China, the Chinese government maintained the stability of Chinese overall employment and GDP through relatively rapid immunization and protection policies and economic policies. The employment status distribution displayed in the research has been also proved to be likely with the trend with Khudaykulov et al. (2022), the empirical data they collected also showed that fulltime respondents taking a high ratio with 54.1% as well as Part time with 45.9%, which is clearly consistent with China's national conditions.

Chinese air conditioning industry is already mature enough and one of the most widely used indoor equipment in China is air conditioning (Tian et al., 2022). Therefore, no matter what kind of occupation is, when the living standard of Chinese citizens is basically guaranteed in China, they can buy air conditioning products with appropriate prices to meet their daily needs relying on their own strength. The distribution of occupational categories in this study is relatively random, among which 8.64% are students, 9.17% are teachers, 20.63% are workers, 2.12% are civil servants, 5.29% are farmers, 0.35% are babysitters, and 53.79% are other occupations not listed in detail. To customers, few empirical studies in China shows that there is a significant impact from professional status on the purchase willingness or intention on air conditioning.

When giving insight to educational degree level distribution, it apparently revealed the normal fact that it has imbalances of educational degree of customers in the context of air conditioner in China (Borsi et al., 2022), according to the survey sample, customers with doctoral degree accounts for only 1.76%, Master's Degree makes up about 13.05% and Bachelor Degree takes a ratio of 35.1%, vocational and below accounts for 50.09% in total. In terms of monthly household income, from the perspective of frequency distribution ratio, 34.49% of air conditioner consumers in the sample have a monthly household income of less than 5000 yuan, and 65.51% have a monthly household income of more than 5000 yuan. Some empirical studies show that the higher the income level, the higher the purchasing willingness and impulsivity of consumers (Borromeo et al., 2022). Based on the frequency distribution analysis, in order to further comprehensively analyze the research themes and objectives, weighted mean and rank were used to describe the corporate image as to natural image, product image, service image, behavior aspect and mental attribute aspect; to determine the customer satisfaction as to experience satisfaction, fulfilment expectation and customer perception; and to describe customer loyalty as to attitude loyalty, behavior loyalty and emotional loyalty.

**Table 2**

*Corporate Image*

Key Result Areas	Composite Mean	VI	Rank
Natural Image Aspect	3.08	Agree	4.5
Product Image Aspect	3.14	Agree	2.5
Service Image Aspect	3.18	Agree	1
Behavior Aspect	3.08	Agree	4.5
Mental Attribute Aspect	3.14	Agree	2.5
Grand Composite Mean	3.12	Agree	

*Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 - 1.49 = Strongly Disagree*

Table presents is the summery table on corporate image, showing the grand composite mean of 3.12, which indicates the consistency of the five factors cited in this table. The data in Table 8 shows that service image is ranked the first place with the highest composite mean of 3.18, which can be seen among the image evaluations of these air conditioning enterprises, respondents were most likely to agree to service image, so that the respondents' service image scores showed the highest level. The quality of service image not only affects the

quality of customers' impression of the enterprise, but also affects the sales of products and the overall image of the enterprise. A good service image helps to improve the market competitiveness of the enterprise. Excellent service image is conducive to bringing a higher degree of customer satisfaction. Therefore, enterprises need to build a good service image, so they must construct a high-quality customer service system.

To create a professional service team, train employees from multiple dimensions of personal quality and professional skills to provide efficient and satisfactory service. In contrast, the product image and the mental attribute aspect of respondents' controllable factors ranked at level 2.5. It shows that the respondents' assessment of the product image of air conditioning was only lower than that of the service image. At the same time, people are relatively positive about the overall communication of products, and the mental attribute aspect is just as emphasized by Sallam (2014), when an enterprise has a good product image and service image, people will have a better image perception in their mind which also increases the willingness to buy more and produces a better WOM impact.

Among all the sub-factors, the natural image and behavior aspect ranked the last with a same composite mean of 3.08. However, the composition of corporate image cannot be separated from natural image factors such as employee appearance, corporate office image, environmental equipment, corporate Logo publicity, as well as corporate advertising design, activity promotion, public relations and CSR related activities. Compared with the uncontrollable factors aforementioned like perception of customers and WOM, natural image and corporate behavior are controllable factors that enterprises can optimize themselves, they are the key elements of shaping corporate image. As Hana et al. (2015) emphasized, corporate image is not only composed of products and services, but also composed of many other factors. Some of these factors are beyond the control of the enterprise, and understanding and improving the details of these controllable and uncontrollable factors can help enhance a company's competitive advantage

**Table 3**

*Customer Satisfaction*

Key Result Areas	Composite Mean	VI	Rank
Experience Satisfaction	3.16	Agree	2
Fulfilment of Expectation	3.13	Agree	3
Customer Perception	3.18	Agree	1
Grand Composite Mean	3.16	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

The table shows a summary table of customer satisfaction with a composite mean of 3.16, which indicates the obviously positive consistency among the cited dimensions as to experience satisfaction, fulfillment of expectation and customer perception. The data shows that these respondents are generally satisfied with the air conditioners they purchased, which may be because the air conditioner manufacturers involved in the research are all well-known enterprises in China. Among the cited dimensions, customer perception ranked first with a composite mean of 3.18 which is higher than the grand composite mean of 3.16. It seems these respondents' overall customer perception of the surveyed air conditioning enterprises is positive. These perceived values come from functional values such as price, quality and performance, when the perception of this is reduced the consumers' satisfaction will also be threatened as also noted by Ahmad et al. (2019), customer perception is a key element to meet customer expected value.

Experience satisfaction got the 2<sup>nd</sup> rank with a composite mean of 3.16 which is equal to the average level of customer satisfaction. The data shows the surveyed consumers are relatively approved of the purchase and transaction process of air conditioning, which can directly transfer or obtain higher customer satisfaction, and thus obtain higher loyalty. As proved by Raina et al. (2019), creating good experience can help enterprises publicize their high-quality products and services to other customers. Memorable shopping experiences will make consumers happy. Enterprises can improve customer experience satisfaction through many measures: Provide a good service environment, new tools and equipment, training and reasonable performance incentives

to urge employees to deliver superior customer experience; Listen carefully to the voice of consumers, research shows that most opinions from consumers are not heard or adopted; Take the initiative to innovate technology in time rather than waiting to respond to the market as well as consumers.

While the dimension evaluated of fulfillment of expectation from customers showed the lowest composite mean of 3.13 and ranked the lowest. However, as an emotional response of the accumulated time interacting with the company, fulfillment of expectation from customers is very important for company to improve customer satisfaction. Customers will be happy and satisfied when their expectations are met or the gaps are shortened between pre-purchase expectation and post-purchase perception, and a happy and satisfied customer is always the priority for companies, as noted by Khatoon et al. (2020), companies can develop new and good services to fulfill customer expectations.

**Table 4**

*Customer Loyalty*

Key Result Areas	Composite Mean	VI	Rank
Attitude Loyalty	3.09	Agree	2
Behavior Loyalty	3.10	Agree	1
Emotional Loyalty	3.00	Agree	3
Grand Composite Mean	3.06	Agree	

Legend: 3.50 – 4.00 = Strongly Agree; 2.50 – 3.49 = Agree; 1.50 – 2.49 = Disagree; 1.00 – 1.49 = Strongly Disagree

As for behavior loyalty got the first rank with the highest composite mean of 3.10, which is much higher than the average level of the grand composite mean, and attitude loyalty displays the similar level with a composite mean of 3.09 with 2<sup>nd</sup> rank. While it shows the lowest score of 3.00 below the average level on emotional loyalty.

Overall, the respondents are loyal to the air conditioning company involved, showing positive and high scores in attitude, behavior, and emotion. This may be also because the air conditioning enterprises involved are relatively top 5 brand companies in China. They have good corporate image, products, and market share, so the respondents have a certain degree of loyalty to these air conditioning enterprises. However, the results show that there is still a lot of room for improvement. In the competitive home appliance retail market, air conditioning enterprises must enhance customer loyalty if they want to create more profits and survive, which can reduce more costs than finding new customers. Among them, customer attitude loyalty, behavior loyalty and emotional loyalty are important indicators to measure customer loyalty, air conditioning enterprises should focus on the important components mentioned above to make more efforts to further improve customer loyalty. As Arslan (2020) emphasized in his article, improving customer loyalty can maintain a good relationship between customers and enterprises for a long time, which has an important impact on business. Exploring the influencing factors of customer loyalty and its formation plan is conducive to the formation of a better enterprise strategy and market competitiveness. The following solutions can be adopted to improve customer loyalty: Build a customer-oriented corporate culture in the enterprise; To enhance customer trust through product quality and service quality and construct long-term customer relationship based on customer trust and value sharing; Create personalized products based on customer's personalized needs, so as to build market barriers leading to enhance enterprise competitiveness.

***Relationship Between Corporate Image and Customer Satisfaction***

The relationship between corporate image and customer satisfaction in the empirical study of this paper also maintains a high similarity with the final conclusions obtained from other literature studies. In contrast, in numerous literatures, Zaid et al. (2020) showed a clear correlation between corporate image and customer satisfaction through empirical research. Their empirical research results proved corporate image directly affects customer satisfaction, and every 1% increase in corporate image will increase customer satisfaction by 58.1%. This significantly reveals the positive impact of corporate image on customer satisfaction.



Wang (2018) used corporate image as the independent variable to build a satisfaction model and effectively verified the direct or indirect effect of corporate image on customer satisfaction. The research results proved that retail enterprises with good scale, product quality and service quality have higher customer satisfaction and loyalty. This study also directly confirmed the positive relationship between corporate image and customer satisfaction. There are many solutions to improve customer satisfaction, such as strengthening the management of corporate image, improving service quality and attitude, improving business environment, innovating sales channels and optimizing distribution services, service system and optimizing customer complaints and problem-solving mechanism, etc., so as to improve customer perceived value and satisfaction.

The results displays the relationship between corporate image and customer loyalty. As observed, the computed r-values ranging from 0.531 to 0.870 indicate a moderate to very strong direct relationship among the sub variables of corporate image and customer loyalty. It shows a statistically significant relationship between corporate image and customer loyalty since the obtained p-values were less than 0.01. Therefore, the correlation analysis data results of corporate image and customer loyalty in the table show that the better the corporate image, the higher the loyalty of its corresponding consumers, and vice versa.

#### ***Relationship Between Corporate Image and Customer Loyalty***

The above empirical survey results show a high degree of consistency with many studies. Many literatures have mentioned the significant positive linear correlation between corporate image and customer loyalty. For example, Zaid et al. (2020) also proved the correlation between corporate image and customer loyalty in their empirical study, and accurately quantified their direct correlation through data, that is, every 1% increase in corporate image, customer loyalty will increase by 44.5%. Alam and Noor (2020) observed the relationship between corporate image and investigated the effect of corporate image on customer loyalty, the result from their study showed the customer loyalty was positively and significantly influenced by corporate image. They argued in research that stores must consider building a good corporate image in order to create an effective foundation for building good customer loyalty and retention. The construction of corporate image is reflected in the management of customer relationship. Shops need to attach great importance to the management of corporate image, especially the image management of the shop itself, and pay attention to the management factors affecting the corporate image, including the natural physical image of the shop. It also includes the quality of service to customers, service reliability, timeliness of problem-solving ability and the attractiveness of the store.

Some researches specifically analyzed the internal relationship between corporate image and customer loyalty from the perspective of the components involved. For example, Alam and Noor(2020) also stressed the importantly positive effects on customer loyalty which is made by service image. Kim et al. (2020) believes that corporate CSR behavior can positively promote corporate image and thus maintain long-term customer relationship for enterprises.

#### ***Relationship Between Customer Satisfaction and Customer Loyalty***

The computed r-values ranging from 0.677 to 0.898 indicates a strong to very strong direct relationship among the sub variables of customer satisfaction and customer loyalty. It shows a statistically significant relationship between customer satisfaction and customer loyalty since the obtained p-values were less than 0.01. This result shows that there is a significant positive correlation between customer satisfaction and customer loyalty, that is, the higher the customer satisfaction, the higher the customer loyalty.

Many scholars have proved the strong correlation between customer satisfaction and customer loyalty through various models or empirical studies. For example, Zaid et al. (2020) also empirically presented a positive quantitative relationship between customer satisfaction and customer loyalty. The research model showed that every 1% increase in customer satisfaction would directly increase the growth of customer loyalty by 67.3%, and such influence was very direct.

In customer relationship management, enterprises must maintain a positive long-term relationship with

customers and maintain high customer satisfaction, so as to make customers more loyal. Leninkumar's (2017) empirical results also revealed the significant positive correlation between customer satisfaction and customer loyalty. He noted that customer satisfaction is an important influencing factor of customer loyalty, as loyal customers are profit customers of the enterprise, hence, if the enterprise wants to maintain a better and long-term customer relationship, It is necessary to improve customer loyalty by enhancing customer satisfaction. Khadka and Maharjan (2017) also emphasized that customer satisfaction and customer loyalty are two important indicators to measure the success of an enterprise. Any enterprise that wants to be successful must obtain customer loyalty, and the premise is to ensure high customer satisfaction. When customer satisfaction decreases to a certain extent, customer loyalty will also decrease significantly. Since satisfied customers are highly likely to help companies refer or find potential customers, ensuring satisfied customers can lead to more customers and ensure longer relationships. Understanding and mastering the relationship between customer satisfaction and customer loyalty will help enterprises to increase customer demand, and then make enterprises successful.

**Table 5***Predictors of Customer Loyalty*

Variable	B	$\beta$	t-value	p-value
(Constant)	-0.052		-0.837	0.403
Corporate Image	0.233	0.213	5.285	0.000
Customer Satisfaction	0.758	0.712	17.680	0.000

Note: R =0.825; F-value=1333.306; p-value=0.000

A multiple regression was conducted to see if corporate image and customer satisfaction predicted customer loyalty in table 20. The fitted regression model was Customer Loyalty =  $-0.062 + 0.233(\text{Corporate Image}) + 0.758(\text{Customer Satisfaction})$ . Overall, the results showed the utility of the predictive model was significant, F-value = 1333.306,  $R^2 \text{ adj} = 0.825$ ,  $p < 0.05$ . All of the predictors explain a significant amount of the variance between the variables (82.5%). The results showed that corporate image and customer satisfaction were significant and positive predictors of customer loyalty.

From the regression model of three variables, customer loyalty as the dependent variable is composed of corporate image and customer satisfaction, the regression coefficient of customer loyalty and customer satisfaction is up to 0.758, and the coefficient symbol is positive, which also indicates that in this survey, customer satisfaction and customer loyalty have a significant positive correlation, and when the corporate image is unchanged, for every unit increase in customer satisfaction, customer loyalty will increase by 0.758 units. The corresponding regression coefficient of corporate image is 0.233, which also explains the positive correlation between corporate image and customer loyalty, meaning when customer satisfaction remains unchanged, customer loyalty will increase by 0.233 units for each unit of corporate image increase. The statistical regression model shows that customer loyalty can be improved from the two dimensions of improving corporate image and customer satisfaction.

A model for an effective customer relationship management of air conditioner companies is proposed in this paper, in order to call on every air conditioning enterprise to do a good job in customer relationship management and operation. A good customer relationship management system can meet customer needs and improve customer satisfaction, thus achieving customer loyalty and retention (Hassan et al., 2015). At the same time, this model provides suggestions for air conditioning enterprises to establish customer-oriented enterprise strategy. It can help Chinese air conditioning enterprises to clarify the relationship between corporate image, customer satisfaction and customer loyalty in the fierce market competition. It provides an effective tool for air conditioning companies to obtain a lasting and good customer relationship and help enterprises to expand market share, so that Chinese air conditioning enterprises can endure prosperity in the market competition.

As shown in Figure 1, corporate image, customer satisfaction, and customer loyalty are essential elements for an effective CRM model. In the whole model, as proved by the data results in the empirical study, corporate image has a positive impact on customer satisfaction and customer loyalty respectively. And more satisfied

customers and more loyal customers will also make publicity for corporate image, and then have an impact on the construction of a good corporate image. Customer satisfaction has a positive impact on customer loyalty and so does customer loyalty on customer satisfaction as the results shows a significantly strong correlation between the two variables. In the research of this paper, the objects explained for this model are mainly composed of the transacted consumers of Chinese top 5 air conditioning brand companies.

**Proposed Customer Relationship Management Model**

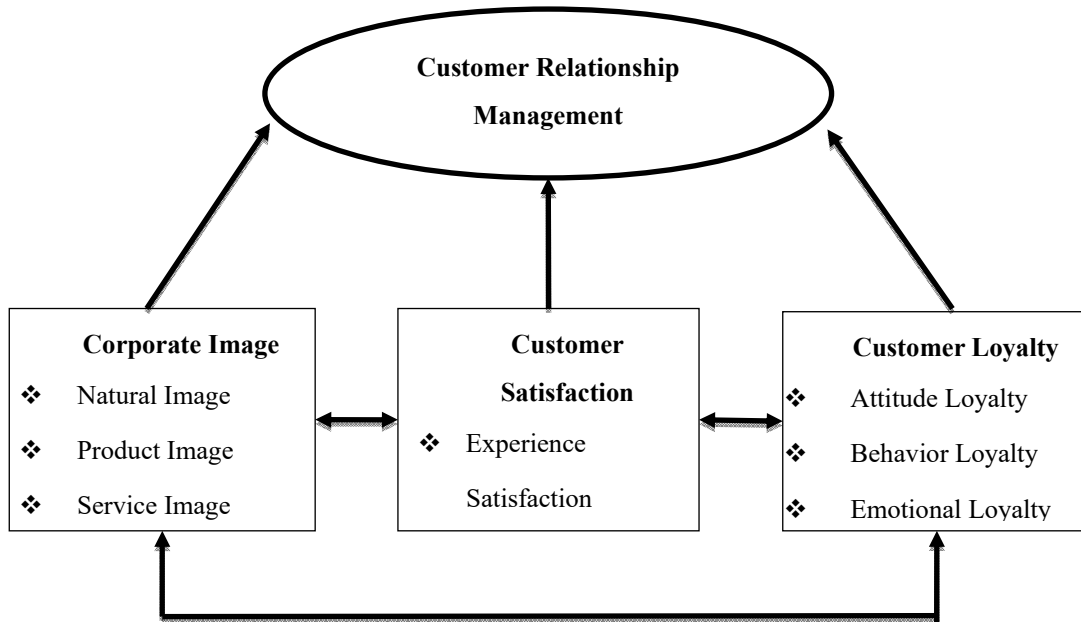


Figure 1. Proposed Model for an Effective Customer Relationship Management of Air

**4. Conclusions and Recommendations**

Based on the empirical research, the author draws the following conclusions: The respondents in this paper moderately regarded with the corporate image in terms of natural image, product image, service image, behavior aspect and mental attribute aspect. The respondents were satisfied with the experience, fulfilment of expectation and perception investigated in this paper. The customers investigated in this study had moderate level of loyalty in terms of attitude, behavior and emotion. Highly significant and positive correlations were proved between corporate image and customer satisfaction, corporate image and customer loyalty, customer satisfaction and customer loyalty in this study. Lastly, the customer relationship management model was created for air conditioner companies in this paper.

This study sets recommendation according to the empirical research in this paper, the author gives the following suggestions: The researcher suggests relevant air conditioning enterprises should improve the visual image and construct a better corporate behavior image. Relevant air conditioner enterprises may need to provide personalized services to reduce the psychological gap between customers before and after purchase experience. The related air conditioner companies may pay timely attention to the emotional changes of customers after purchase, and improve customer trust, value perception and other factors so as to achieve positive emotions and high loyalty of customers. Air conditioning enterprises can use the proposed customer relationship management model to promote the improvement of customer loyalty by enhancing corporate image and customer satisfaction. Finally, researchers may explore and analyze schemes to investigate the impact of customer segmentation or other factors on good customer relationship management.

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